



## Engineering Services Report

System:	<u>9WSA: Surface Water Supply</u>	Date:	<u>April 9, 2008</u>
Title:	<u>Eddie Current Inspection of DMAD Pipeline</u>	Page:	<u>1 of 2</u>
By:	<u>Dahl Dalton</u>		

---

The following detailed report is of the inspection of the DMAD pipeline:

### Summary

The 48" surface water supply (DMAD) line was pumped out using 3 pumps with 6 inch suction from Rain For Rent and inspected by Pressure Pipe Inspection Company (PPIC) during the week of March 10 through March 22, 2008.

The DMAD line was left with a lot of mud and water in it due to how slow the line was drained. It took an extra day to pump out the extra water from the 10 manways even though we had 6 inch suction pumps instead of 4 inch suction pumps as was planned. It took 4 full days to completely pump out the manways.

PPIC was able to finish the pipe inspection on schedule even though the robot that did the inspection broke down 3 separate times. PPIC was able to use their smaller robot on the shorter runs while they waited for parts to the bigger robot. They completed the inspection in 9 days.

The entire 49,270 ft of line from the DMAD pump house to air vac 1 by the onsite reservoir was inspected except for 700 ft. 400ft next to the DMAD pump house and 300ft between MW 9 and MW 10 that the robot could not reach.

During the inspection PPIC was able to tell us in generally terms only that most of the pipe looked good except for some areas of concern near the onsite res. Later reports from the analyst showed that four (4) 24 ft sections of pipe between manway 9 & 10 had greater than 40 wire breaks and the two (2) worst section had possible breaches in the cylinder can. These sections will be replaced in the fall of 2008.

**I recommend that these four (4) sections be replaced in the fall of 2008. I also recommend that the DMAD pipeline be inspected every two (2) years to monitor the progression of the corrosion of the pipe.**

**I also suggest that the following items be followed to improve the efficiency of the inspection process.**

Drain line faster by setting all three of the DMAD pump discharge valves at 75 % open.



## Engineering Services Report

System:	9WSA: Surface Water Supply	Date:	April 9, 2008
Title:	Eddie Current Inspection of DMAD Pipeline	Page:	2 of 2
By:	Dahl Dalton		

---

Put 6" gate valves on the top of manways 5, 6, 7 and on manway by MBV 006.

Use pumps that can produce

Pump out the manways in the following order:

- MW by MBV 006 to Onsite Res.
- MW 10 to State Land
- MW 3 to Air Vent 2
- MW 7 to State Land by MW 8
- MW 5 to MW 7
- MW 6 to MW 7
- MW 8 to State Land
- MW 9 to State Land
- MW 1 Across Road to DMAD Res.

Inspect the manways in the following order:

MW 2 - MW 1	MW 7 - MW 8	WYE - MW 10
MW 2 - MW 3	MW 8 - MW 7	MW 1 - DMAD
MW 3 - MW 2	MW 9 - MW 10	MW 1 - MW 2
MW 3 - MW 5	MW 10 - MW 9	MW 5 - MW 6
MW 5 - MW 3	MW 10 - WYE	MW 6 - MW 5
MW 6 - MW 7	DSCHG - WYE	MW 8 - MW 9
MW 7 - MW 6	WYE - VENT	MW 9 - MW 8

Have PPIC bring their small robot and that they do preventive maintenance on their bigger robot.

Use an all terrain crane to lower and raise the robot.

### Background

“EPA Response 12- Brent Smith”  
From Office Files

## MEMORANDUM

### INTERMOUNTAIN POWER SERVICE CORPORATION

TO: James Nelson

FROM: Bret Kent

DATE: May 28, 2002

SUBJECT: Belt Positioner Recommendation for 201/202 Feeder Belts

The following memo addresses your request for a recommendation on the problems Maintenance has training the 201/202 feeder belts.

From speaking with the supplier and end users, it is my recommendation that a Flexco Persuader Belt Positioner be implemented to correct the training problem present in the above mentioned conveyor belts.

Justification for this recommendation is as follows:

- Comparison to conventional training idlers
- Interviews with end users

#### Comparison

Conventional training idlers use pivoting rollers on the belt edge to steer the belt back to center. This requires constant mechanical motion, much the same as balancing a pencil on your fingertip. This constant mechanical motion results in the failure of bearings and rollers. In the end, the failure of the training idler causes excessive wear on the belt as the rollers rub on the belt edge. The Persuader uses a funneling action created by angled rollers mounted in a fixed position. Using the pencil analogy; instead of trying to balance the pencil on end, the pencil is suspended, requiring minimal reaction as a result of an upset force. By eliminating the high cost, high maintenance pivot rollers you also eliminate 2/3 the cost and gain

- No wear on belts
- Extended service life
- No required maintenance

#### Interviews

Key points from end-user phone interviews follow.

##### Bob Mills - Savage Industries

- 3 in service for 2 years
- No maintenance

## MEMORANDUM

INTERMOUNTAIN POWER SERVICE CORPORATION

TO: [TO:]  
FROM: [FROM:]  
DATE: March 27, 2006  
SUBJECT: Tramp Metal Detection Study Results

In December of 2002, Technical Services was asked to perform a study to determine the amount of tramp metal being fed into the pulverizers.

The results of the study show that significant amounts of tramp metal make it past the magnetic separators. This is either because it is a nonferrous material or because it is too small/large for the separators.

The basis for this study was metal the size of a 3/4" nut and larger. During a period from January 27, 2003 to April 15, 2003 the average was 1 piece of metal this size every 440 tons of coal. PI data shows current coal usage at 725 tons/hour. That means a piece of metal goes into the pulverizers every 36 minutes.

The study was performed by connecting a controller, on loan from Thermo-Ramsey, to the existing coils on the 18B conveyor.

Because of the damage done by this tramp metal, especially large non-ferrous castings, it is recommended that an evaluation be made in to using a swing arm sampler controlled by a metal detector to remove 100% of this tramp metal. Several manufactures have this technology in operation. The sampler works on a time delay from the metal detector to remove the metal, along with the adjacent coal from the belt.

Contact Bret Kent x6447 with any questions regarding this study.

IP12\_004677

have the magnet belt speed match or slightly exceed the conveyor belt speed. This allows tramp metal to be picked up by the magnet and the material velocity match the magnet belt speed. This allows better retention of collected metal.

There are three approaches to remedy the problem of tramp metal getting past the magnet and damaging the coal pulverizers.

1). Change the magnet belt speed to increase to a match or slight excess of the conveyor belt speed. This will involve replacing the drive motor sheave and probably the magnet belt. These changes can be done with locally acquired parts.

2). Replace the existing magnet with a Dings Model 66, 54" x 60". This will allow the magnet to cover the entire conveyor belt width, picking up tramp metal which may have previously been allowed past. This approach has one rather large consideration: the enclosure over the belt head pulley where the magnet is mounted would have to be modified to accommodate the larger footprint of this magnet.

3) Install an additional magnet(s) on a belt feeding conveyors 15A and 15B. This would capture the bulk of tramp metal and the existing magnets would the "polish" the coal feed.

Below is an informal proposal to retrofit with Dings Model 66 magnets:

Model 66, with an Explosion Proof outlet box and an Explosion Proof 5 HP motor. \$22,547.00 each. An **option** is for R-Temp fill oil, which has a higher flash point than standard fill oil. Add \$2,223.00 each magnet.

A 10 KW rectifier, NEMA 4 enclosure is \$5301.00 each. With a NEMA 12 enclosure is \$4248.00 each. If you wish a NEMA 7/9 enclosure I will have to quote that later, as it is a special.

Please call with any questions.

Best Regards,

Larry Clark

cc: Purchasing

IP12\_004678

# Interview Questions for Experience Base

**Date:** May 16, 2002

**Product:** Flexco Persuader (Conveyor Belt Positioner)

**Supplier:** Applied Industrial Technologies

**Company Name:** Savage Industries

**Location:** Wellington, UT

**Phone Number:** 435-637-5664

**Contact Name:** Bob Mills

---

## 1. What is your application? Coal Stacker- 300' / 36" Belt

- ☐ **Loading?-** 1000 Ton/hr
- ☐ **Short/Long belt?** 220' - 300' Radial Stacker
- ☐ **Belt Speed?** 800-900 fpm
- ☐ **Describe problem trying to correct?** As stacker swings, loading forces the belt to the side.

## 2. Did it perform as advertised? Yes

- ☐ **Is it a "quick" fix?** Better than TriReturns and a lot cheaper. TriReturns wore out the roller in 1 year.
- ☐ **Require tuning?** A little
- ☐ **If so how long did it take?** 30 minutes (including installation)
- ☐ **Any adverse affects on process?** No

## 3. Installation

- ☐ **Any problems/concerns/pitfalls?** No
- ☐ **Take longer than expected?** No
- ☐ **Any surprises?** No

## 4. Maintenance

- ☐ **How long in service?** 2 years
- ☐ **How many repairs?** None
- ☐ **How many replacements?** None
- ☐ **Do you have recommendations for maintenance?** No

## 5. Affect on associated equipment

- ☐ **Wear on belt?** No more than usual
- ☐ **Notice increase in replacing associated components? (Bearings, rollers...) No**

## 6. Any regrets?

- ☐ **Did you make the right decision? Would you buy it again?** Yes and Yes
- ☐ **Any other solutions to consider?** No recommendations
- ☐ **Have you purchased others?** Yes

## **Interview Questions for Experience Base**

**Date:** May 16, 2002

**Product:** Flexco Persuader (Conveyor Belt Positioner)

**Supplier:** Applied Industrial Technologies

**Company Name:** Savage Industries

**Location:** Wellington, UT

**Phone Number:** 435-637-5664

**Contact Name:** Bob Mills

---

### **7. Additional Comments**

Recommended looking at another supplier if Applied will not give us the same service they received. They were given a 90 day free trial and free installation from Bookcliff in Price, UT. The contact person at Bookcliff is Lee.



## **Interview Questions for Experience Base**

**Date:** May 17, 2002

**Product:** Flexco Persuader (Conveyor Belt Positioner)

**Supplier:** Applied Industrial Technologies

**Company Name:** Southern Utah Fuel

**Location:** Salina, UT?

**Phone Number:** 435-286-4417

**Contact Name:** Fred St.Pierre

---

None presently in service. Should have 2 in service in 2-4 weeks. Has tried everything out on market. So far has liked Guidlers the best.